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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/578,869

05/11/2006

Honda Shoji

070759-0044

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20277 7590 12/13/2007
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| EXAMINER |
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KING, JOSHUA

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| ART UNIT | PAPER NUMBER |
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2828

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| MAIL DATE | DELIVERY MODE |
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12/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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| <p align="center">Office Action Summary</p> | <p>Application No.</p> <p align="center">10/578,869</p> | <p>Applicant(s)</p> <p align="center">SHOJI, HONDA</p> | |
| | <p>Examiner</p> <p align="center">Joshua J. King</p> | <p>Art Unit</p> <p align="center">2828</p> | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/01/2007 have been fully considered but they are not persuasive. Applicants have argued that by amending claim 1 to include "a clearance is provided between a lower end portion of the element mount surface and a bottom surface of the depression". However, Fig. 3 of Hosokawa et al. clearly discloses the lower end portion of the element mount surface (Fig. 3 element 17) being disposed at a position which is higher than "a bottom surface of the depression" (Fig. 3 element 5). Since the lowest portion of the depression is below the position of the lower end portion of the element mount surface there is a clearance between the two.

2. The examiner also notes an amendment to claim 6. Applicant has amended claim 6 to read "... the depression has a rough bottom surface that can diffusely reflect secondary laser light." In the previous action, the examiner asserted that all surfaces have a roughness. As such the recitation of claim 6 was inherent. The applicants on page 3 of their response have argued that by adding "that can diffusely reflect secondary laser light", recitation of the roughness is no longer inherent. This, however, is not the case. It is known in the art that the roughness of any surface directly affects how much light diffuses when it makes contact with the surface. Therefore, the recitation is still inherent.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on May 11, 2006 was filed on the mailing date of the instant application on May 11, 2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Hosokawa et al. (U.S. Pre-Grant Publication 2004/0105472).

7. Hosokawa et al. discloses:

- **With respect to claim 1**, a base portion having a horizontal top surface (Fig. 3 element 1); a heat sink portion that has a vertical element mount surface and is located above the top surface of the base portion (Fig. 3 element 17); a semiconductor laser element that is fixed to the element mount surface (Fig. 3 element 3); and a depression that is formed in the top surface of the base portion located immediately below the semiconductor laser element so as to receive part of the semiconductor laser element disposed therein (Fig. 3 element 5), wherein

the heat sink portion is fixed to the base portion in such a way that the element mount surface is located inward of an inner side surface of the depression (Fig. 3 elements 5 and 17), and that a clearance is provided between a lower end portion of the element mount surface (Fig. 3 element 17) and a bottom surface of the depression (Fig. 3 element 5).

- **With respect to claim 2**, wherein the depression is formed within an area of a circle including, on a circumference thereof, a plurality of lead pins that feed a voltage to the semiconductor laser element ([0017]).
- **With respect to claim 3**, wherein the semiconductor laser element is fixed to the heat sink portion via a submount, part of which is disposed in the depression (Fig. 3 element 2).
- **With respect to claim 4**, wherein a length of the semiconductor laser element is longer than a height of the heat sink portion (Fig. 1 elements h1 and L). It should be noted that the applicant has admitted in the disclosure that the lengths of the elements is a matter of design choice (see [0054] of 2007/0086494 which is the Pre-Grant Publication of the instant application).
- **With respect to claim 5**, wherein the base portion and the heat sink portion are formed as a single member (Fig. 1 elements 1 and 7). It should be stated that the courts have found that making two elements integral only requires ordinary skill in the art.
- **With respect to claim 6**, wherein the depression has a rough bottom surface that can diffusely reflect secondary laser light. While not explicitly stated all

surfaces have some roughness which diffusely reflects secondary laser light, so the recitation is anticipated through inherency.

- **With respect to claim 7**, wherein the depression has an inclined bottom surface (Fig. 3 element 5).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hamasaki et al. (U.S. Patent Number 6,449,296) discloses the effects of a roughened surface in the recessed portion. Simoun-Ou et al. (U.S. Pre-Grant Publication 2005/0105572) discloses a laser device with a recessed base. Tanaka et al. (U.S. Patent Number 5,089,861) discloses a recessed portion base. Shimonaka (U.S. Pre-Grant Publication 2002/0154667) discloses the effects of a roughened surface to laser light. Ichikawa et al. (U.S. Pre-Grant Publications 2001/0026991 and 2003/0165167) which disclose a recessed base of a semiconductor device.
9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

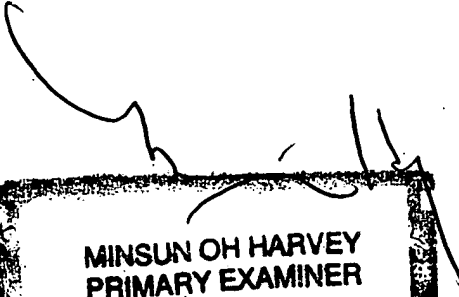
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua J. King whose telephone number is 571-270-1441. The examiner can normally be reached on Mon.-Thurs. 10:00-7:30 and other Fri. 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJK 12/04/2007

Art Unit: 2828


MINSUN OH HARVEY
PRIMARY EXAMINER